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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---|------------------------------------|
| 10/716,870 | 11/20/2003 | Shinjiro Kawato | 57454-989 | 5642 |
| <div>759006/13/2007 MCDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096</div> | | | <div>EXAMINER LIEW, ALEX KOK SOON</div> | |
| | | | <div>ART UNIT 2624</div> | <div>PAPER NUMBER</div> |
| | | | <div>MAIL DATE 06/13/2007</div> | <div>DELIVERY MODE PAPER</div> |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/716,870 | Applicant(s) KAWATO ET AL. | |
| | Examiner Alex Liew | Art Unit 2624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 6, 7, 11 and 12 are rejected under U.S.C. 102(e) as being anticipated over Yamada (US pat no 6,885,760).

With regards to claim 1, Yamada discloses a method for extracting a face position, comprising steps of

- preparing digital data of a value of each pixel within an object image region including a region of a human face (see figure 1 – 102 – the input image includes an image of the face),
- extracting in said object image region position of a between-the-eye candidate point through a filtering process with a between-the-eyes detecting filtering in which there are six rectangles are connected (see figure 112 – the edges of the eye image are detected using the divided areas, 103, edge detectors are filtering processes, and see figure 3a – 307 – see the slit rectangles between the eyes, it counts up to six rectangles) and

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- extracting a portion of said object image in a prescribed size which has the extracted position of said between-the-eyes candidate point at a center and selecting a true candidate point from said between-the-eyes candidate points in accordance with a pattern discriminating process (see column 5 lines 9 – 24 – the between eye candidate are determined by using histogram method and edge detection features).

With regards to claim 2, Yamada discloses a method for extracting a face position according to claim 1, wherein said between-the-eyes detecting filter is one rectangle divided into six segments (see figure 3a – 307).

With regards to claims 6 and 11, see the rationale and rejection for claim 1.

With regards to claims 7 and 12, see the rationale and rejection for claim 2.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 3, 8 and 13 are rejected under U.S.C. 103(a) as being unpatentable over Yamada ('760) as applied to claim 1 further in view of Viola (NPL Titled: Rapid Object Detection using a Boosted Cascade of simple Features).

With regards to claim 3, Yamada discloses all the limitations discussed in claim 1 and six rectangles between the eyes, each vertical to each other (see figure 3a), but does disclose having three rectangles on top of another three rectangles aligned together as shown in figure 4b of the specification. Viola discloses a rectangle placed on top of another rectangle, shown in figure 1D. One skill in the art would include a rectangle placed on top of another rectangle because to take the difference between the top and bottom rectangles to extract desired features from the image selected section to allow the user to extract any portion of the image it's desired (see Viola section 2. Features).

With regards to claims 8 and 13, see the rationale and rejection for claim 3.

3. Claims 4, 9 and 14 are rejected under U.S.C. 103(a) as being unpatentable over Yamada ('760) as applied to claim 1 further in view of Li (US pat no 2002/0150280).

With regards to claim 4, Yamada discloses all the limitations discussed in claim 1 with detecting positions of eyes through a pattern discriminating process with respect to said object image that corresponds to prescribed two rectangles among rectangles forming said between-the-eyes detecting filter (see figure 1 103 and 112 – by selecting the

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correct Hslit, shown in column 5 lines 47 – 55, image in figure 3a will obtain two rectangles and 112 determines the eye candidate) and re-extracting image portion of object image in a prescribed size (see figure 117 – where the eye candidate area is determined again using glass determining signal) and selecting a true candidate points in accordance with a distance to said between-the-eyes candidate points in accordance with a pattern discriminating process (see figure 1 - 118), but does not disclose correcting the position of said between-the-eyes candidate point to a middle point and rotating image around until two eyes are aligned horizontally. Li discloses correcting the position of said between-the-eyes point to a middle point between two eyes based on said detected positions of the eyes (see figure 6 – 350 – Xc and Yc are the center point, figure 7 – 450 and 458 – aligns an inner and outer ellipse around the center point and the two ellipse represent the face of the person) and rotating the image around said corrected position of between-the-eyes point such that the two eyes are aligned (see figure 7 – 472, 478, 486, 492 and 496). One skill in the art would include correcting positions of an image because to align images with template images for comparison to identify individuals, where it is important to verify any individual trying to enter a secure area or facility, to improve security.

By modifying figure 1 of Yamada with the rotating image in Li, the combination of Yamada and Li disclose the invention of claim 4.

With regards to claims 9 and 14, see the rationale and rejection for claim 4.

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4. Claims 5, 10 and 15 are rejected under U.S.C. 103(a) as being unpatentable over Yamada ('760) as applied to claim 1 further in view of Tajima (US pub no 2001/0031073).

With regards to claim 5, Yamada discloses all the limitations discussed in claim 1 with a step of selecting a candidate point from between-the-eyes candidate points in accordance with a distance to between-the-eyes candidate point (see figure 1 – 112), but does not capturing stereo image. Tajima discloses taking stereo images of an individual face from plurality of angles to produce a shape image of the individual's face (see figure 1 – 3 produces the shape image of the individual's face and figure 5 – shows the stereo images taken from plurality of angles). One ordinary skilled in the art would include capturing stereo image because to obtain face image data to show more details and to improve recognition results of any individual.

With regards to claims 10 and 15, see the rationale and rejection for claim 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623.

The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alex Liew
AU2624
6/9/07



JOSEPH MANCUSO
SUPERVISORY PATENT EXAMINER